

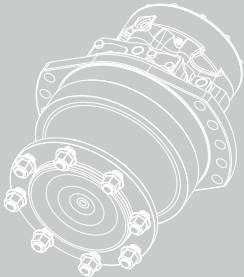
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HRP18 series

Radial piston hydraulic motor

The HRP18 series radial piston hydraulic motor, is a kind of low speed high torque hydraulic motor, disc valve structure, with high pressure, good stability at low speed, high volumetric efficiency and mechanical efficiency.



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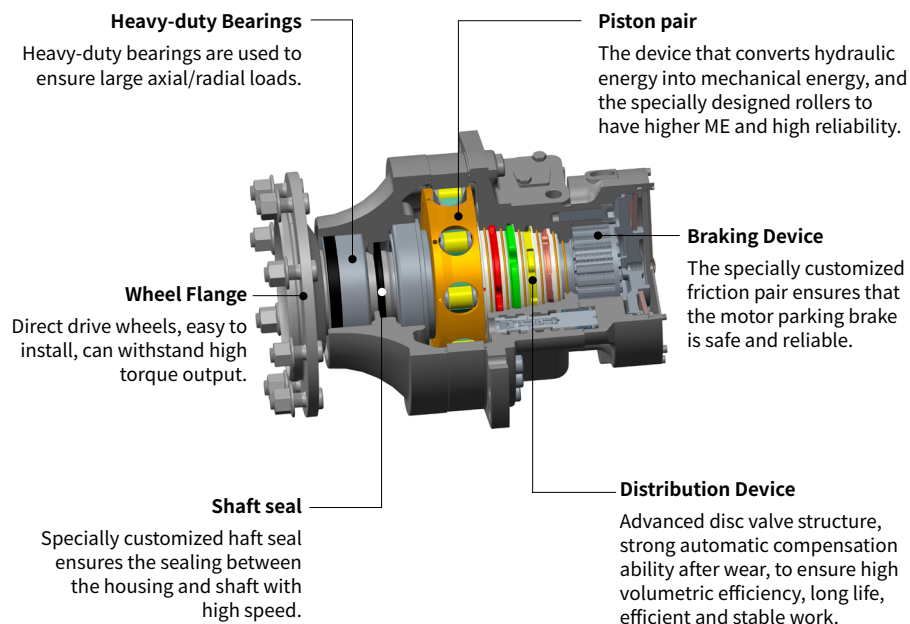
Overview

The HRP18 series radial piston hydraulic motor, is a kind of low speed high torque hydraulic motor, disc valve structure, with high pressure, good stability at low speed, high volumetric efficiency and mechanical efficiency, the motor can be equipped with a variety of functional modules.

Advantages

- Using tapered roller bearing structure, can support larger radial load.
- Advanced disc valve structure, radial large-diameter piston, high torque, high volumetric efficiency.
- More options including parking brake, speed sensor, etc.
- Smoothly 2-speeds changed.

Standard structure



Specification

Series		HRP18			
Motor performance					
Displacement		cm ³ /rev.	1392	1747	1862
Max.torque		Nm	9800	12180	13000
Min.stable speed		rpm	5		
Max.speed	Displacement	rpm	155	125	100
	Variable displacement	rpm	160	150	125
Pressure	Max.differential pressure	bar	450		
Brake					
Minimum static torque		Nm	18600		
Release pressure		bar	12 ~ 30		
Maximum pressure at brake port Z		bar	30		
Oil volume to operate brake		cm ³	70		

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- Make sure the motor is full of oil before use.
- The maximum torque is only available for small operating conditions.
- During motor running-in(at least 20 hours), it should not be operated without load at greater than 100rpm.
- The filtration standard of ISO 4406 cleaning standard 20/18/15 is recommended.
- High quality anti-wear hydraulic fluids are recommended.
- When the temperature is 50° , the minimum viscosity of the oil is recommended to be 20mm²/s.
- The recommended maximum operating temperature is 85° C.

Ordering information

HRP18	Single and Two Speed	Displacement	Port Connection	Output Shaft	Paint Option	Brake	Flushing Valve	Special Features
01	02	03	04	05	06	07	08	09

Radial Piston Series

01	Incurve multiple-action radial piston motor	HRP18
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Single and Two Speed

02	Two speed, gear ratio 2:1	2
	Two speed, gear ratio 2.28:1	3

Displacement cm³/rev.

03	1392/696, Standard piston	22
	1747/874, Standard piston	26
	1862/816, Standard piston	28

Port Connection

04	φ18.5(A, B), M22×1.5(L, L1), M22×1.5(X)	M8
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Output Shaft

05	Pilot diameter φ220.7×18, hub bolt φ275 distribution circle 8×M20×1.5	W2
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Paint Option

06	No Paint	N
	Black	B
	Hengli blue	C
	Yellow	Y

Brake

07	Static braking torque 18600Nm, port Z M16×1.5	F1
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Ordering information

Flushing Valve

08	Whether there is a flushing valve or not	A
	There is a flushing valve with a flow rate of 5L/min	B
	There is a flushing valve with a flow rate of 7L/min	C
	There is a flushing valve with a flow rate of 10L/min	D
	There is a flushing valve with a flow rate of 12.5L/min	E
	There is a flushing valve with a flow rate of 13.5L/min	F

Special Features

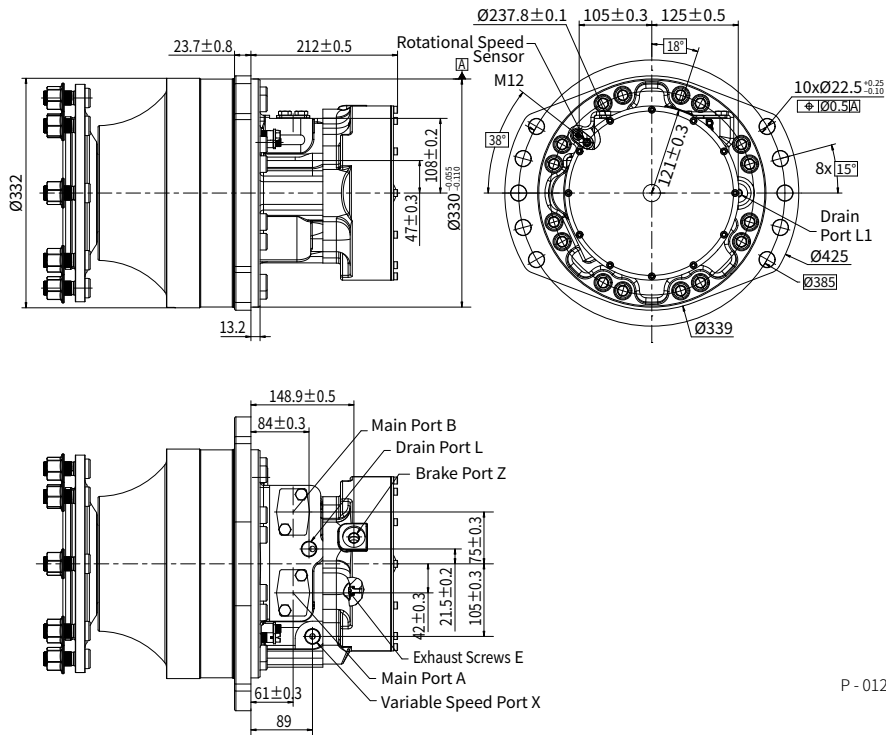
09	Standard	AA
	High temperature, FKM	V1
	Low temperature	V2
	Speed sensor cavity	S1
	Speed sensor to determine direction	S2

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Note: For the other types of port forms, output forms and brake port orienttations, please contact Hengli's application engineer for consultation.

Installation size

· HRP18 (Two speed)



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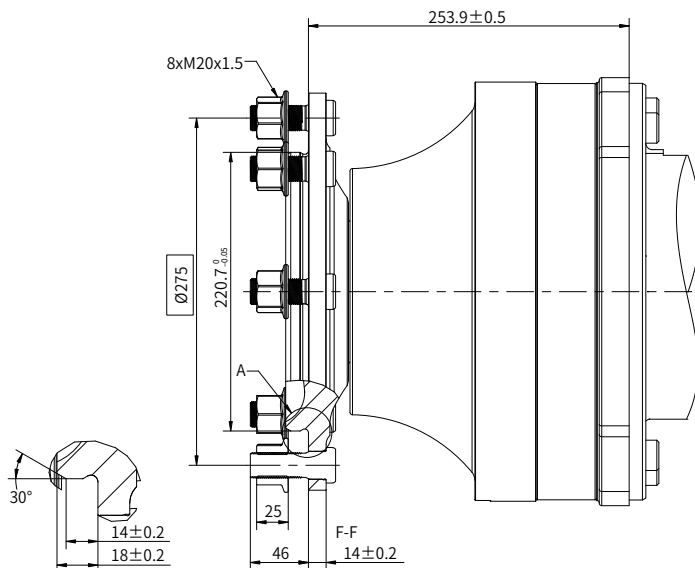
Note: The weight of the connection shown in the figure is 167.1kg.

Name	Port function	M8
A、B	Main Port	$\phi 18.5$
L、L1	Drain Port	M22×1.5
X	Variable Speed Port	M22×1.5
Z	Brake Port	M16×1.5

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Shaft end dimensions

W2 Pilot diameter $\phi 220.7 \times 18$, hub bolt $\phi 275$ distribution circle $8 \times M20 \times 1.5$

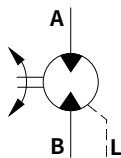


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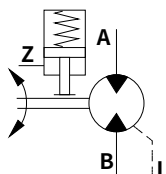
Hydraulic diagram

· Motor without brakes



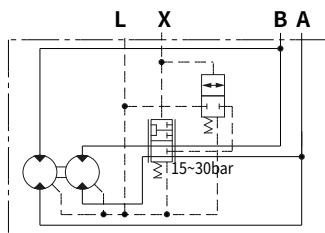
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· Motor with parking brake



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· Schematic diagram of a two-speed motor

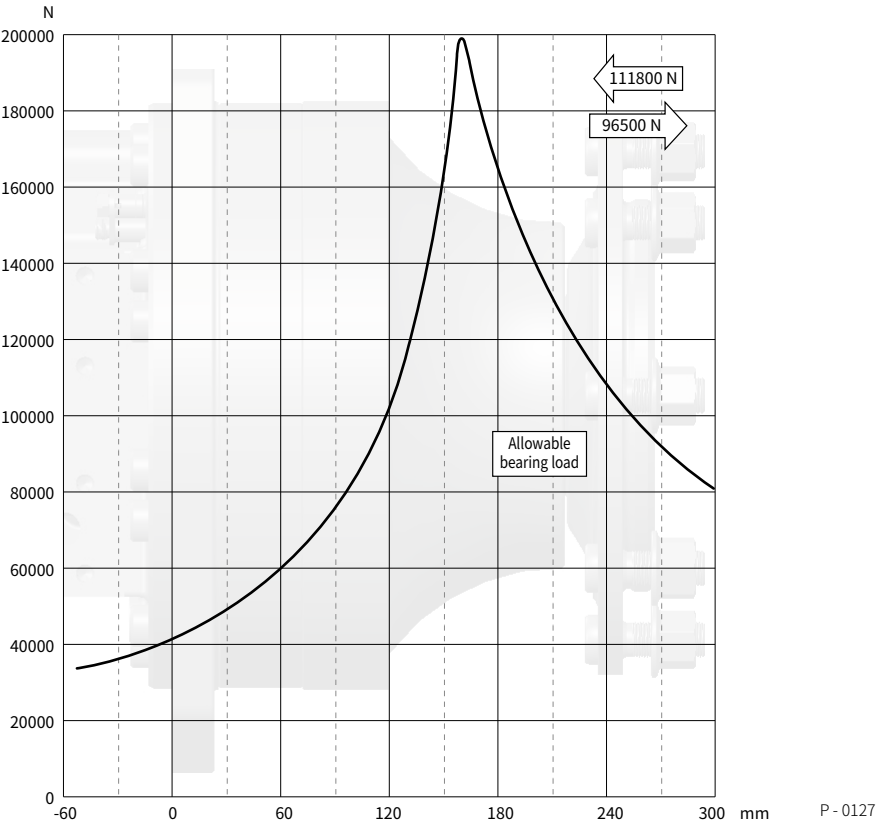


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Allowable shaft load/bearing curve

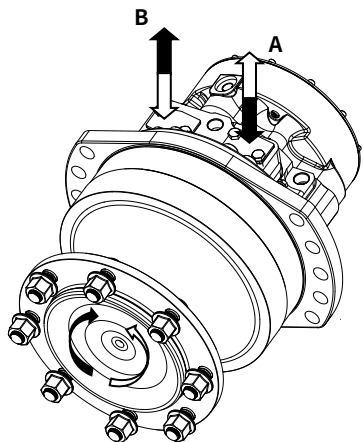
As shown in the figure, when the axial load is 0, the radial allowable load of the output shaft is related to the distance from the flange mounting surface to the load action point.

The solid line shows the allowable radial load of the bearing based on L_{10} life with 2000hrs. Denote use hydraulic fluids containing anti-wear additives, and rated output torque and motor speed of 50rpm, the differential pressure is 250 bar, the operating oil temperature is 50°C .



Rotation direction: CW

When facing the motor shaft extension direction, port A is high pressure oil, the output shaft rotates CW; Otherwise, it rotates CCW.



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